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ROBT. C. KIRKPATRICK, 1886.

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RESULTS OF GASTRO-ENTEROSTOMY.*

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Mme. M. came under my care on October 12, 1894, complaining of "indigestion." This had been going on for some years. For several months she had been getting thinner and weaker, while for a month past she had been suffering from pain in the region of the stomach coming on after the ingestion of food, and from vomiting, usually of the substance of her meals and but rarely of a "coffee-ground" character. Examination of the abdomen revealed a small indistinct mass in the epigastric region to the left of the middle line.

She was admitted into the Montreal General Hospital and a test breakfast given with the following results: The amount of fluid expressed from the stomach one hour after taking a cup of tea and two ounces of bread was much increased, being more than one pint, and was composed of mucus and undigested food, with very apparent quantities of butyric and lactic acids; hydrochloric acid and pepsin were absent.

She was kept in the hospital for six weeks and the effect of dieting and lavage was absolutely *nil*, while the tumour became larger and more apparent until it appeared to be about the size of a hen's egg. It was not movable to any extent, and inflation of the stomach did not cause it to move to the right of the middle line. Such being the case, it was decided to make an exploratory incision and then either remove the growth or perform a gastro-jejunostomy, as circumstances seemed to warrant. Accordingly, on December 6th, the patient being duly prepared and etherized, an incision was made in the middle line extending from the ensiform cartilage to the umbilicus. It was then seen that the pylorus was involved in a growth which extended thence along the lesser curvature nearly to the cardiac orifice. A longitudinal incision was made through the pylorus in order to examine the growth, and there was found a fibrous mass presenting all the characteristics of a carcinoma, a diagnosis which was afterwards verified by microscopic examination of a small portion removed. Hæmorrhage was free from the cut surface, requiring the application of the thermo-cautery to check it. The growth was too large to remove with any hope of success, so the pyloric incision was closed by

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sutures of silk, and at one place where it was difficult to secure apposition of the serous surfaces a graft of omentum was attached and held in place with a few silk sutures. Gastro-jejunostomy was done, an opening about four inches in length being made and the stomach and bowel being attached one to the other by a double row of continuous silk sutures. The abdomen was then closed. The recovery was uneventful and the patient left the hospital on December 31st, twenty-five days after the operation.

On March 16, 1895, the patient returned for examination. Since leaving the hospital she has been gaining in weight and strength, now weighing 129 pounds, a gain of 12 pounds. Occasionally she has slight attacks of pain in the region of the stomach, but no vomiting. She is able to eat ordinary food and the bowels move regularly. She is able to do her housework without undue fatigue. The tumour is a little larger, but is not growing as rapidly as it did before the operation. The test breakfast gave the following result: The quantity of fluid was eight ounces, principally mucus. For her supper the night before she had taken a chop and there was no evidence of this in the fluid expressed. Hydrochloric acid was absent, as was also the pepsin and its zymogen. The curdling ferment was present, but seemed very inactive. Butyric, lactic, and acetic acids were not present in any appreciable quantity.

The stomach contents were examined again on July 17th with practically the same result, except that the quantity of fluid was only two and one-half ounces.

Such is the history of the case given very briefly, and the result is, I think, worthy of some consideration. We have a patient suffering from an incurable disease, and that disease is advanced to such a degree that she is not able to continue her daily work. The question is what we shall do for her. If left alone she will die a painful and lingering death. We have no drug that will produce any effect on the cancer; our sole resort is therefore in operation. If not successful we only anticipate the fatal result by a short time, while if we succeed we give her an increased lease of life and usefulness. In this case the growth was too large to remove, so the only resource was to make a new opening between the stomach and the bowel. And what is the result? In three and a half weeks the patient goes home, takes her place at the head of her household, and is practically well. The vomiting and constipation are relieved, the pain is lessened until it scarcely incommodes her at all, and she is able to eat whatever is set before her. The examination of the stomach contents show that while the motor functions of the stomach are restored and the hyper-

secretion lessened, its digestive functions are not improved. Still the fermentation is prevented by passing the food on quickly and the stomach is able to empty itself more and more completely, as shown by the lessened quantity of fluid obtained at each test. Besides, the growth of the tumour is much slower, probably on account of the lessened irritation when the fermentation is done away with.

The following extract from the "Epitome of Current Literature" in the *British Medical Journal* for January 5, 1895, is of interest because it bears out our observations.

"Rosenheim, of Senator's clinic (*Berl. klin. Woch.*, December 10th, 1894), has examined ten cases, and has nearly always found, whether the primary disease was malignant or not, delay in the passing on of the stomach contents. In a patient with pyloric carcinoma, upon whom Hahn did a gastro-jejunostomy four months previously, there was increase in weight and much improvement, but the secretory functions of the stomach diminished. Bread, meat, and especially vegetables were retained longer than usual, but in this respect improvement appeared to be taking place. The bowels acted satisfactorily. The tumour did not appear to have increased, and the author thinks that the operation tends to delay such growth. It had certainly done away with the retention of fluid in the stomach. In another case in which gastro-jejunostomy was done for carcinoma by Hahn nine months ago, the woman was so much improved that she became pregnant; abortion had to be induced. The patient was without stomach symptoms. The secretory powers were *nil*, but the motor power showed improvement. Complete restitution of the stomach mechanism has not hitherto been observed, as Mintz's case is not quite free from objection. The author then records a case of pyloric obstruction due to the cicatricial contraction of an ulcer, and in which gastro-jejunostomy was also done by Hahn four months previously with the most satisfactory results. The fasting stomach was empty one hour and three-quarters after a test breakfast. The secretory and motor functions of the stomach were normal, and the patient had gained 52 pounds in weight. The gastric hypersecretion noted before the operation was, in the author's opinion, now cured. Here the abnormality in secretion was secondary. There are undoubtedly many cases in which it is primary and the motor insufficiency secondary. The author contends that in such a case as the one above reported hypersecretion is no contra-indication to the operation."

Taking the results of Rosenheim's observations, together with the case reported, it is evident that in cases of carcinoma of the stomach where there is interference with the motor functions as evidenced by

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dilatation of that organ with fermentation and vomiting, we should advise our patients to have a gastro-enterostomy performed, and we can promise them considerable improvement in their condition and an increased lease of life, and that at a minimum of risk.

I have purposely refrained from discussing the mode of operating and the relative merits of suture and of the Murphy button, because the point I wish to draw attention to is the result we may look for after the operation, and I do not wish to enter on any discussion which might lead us away from the main point.